



Accurate and easy to use hand-held device for flexible spirometry screening!

- ▶ Full spirometry testing (FVC, SVC, MVV, Bronchial challenge test)
- ▶ Accurate bidirectional turbine flowmeter reliable in any conditions
- ▶ PC software for data management and real time testing
- ▶ USB connection (PC and external Printer)
- ▶ Internal memory of up to 600 tests/patients
- ▶ Integrated Digital Oximeter (optional) for HR and SpO₂ monitoring



Spiropalm is the NEW hand-held device designed for flexible spirometry screening. Tests can be performed easily and accurately wherever it is needed. Results are monitored on the bright and clear black and white display and printed by linking Spiropalm directly to an external printer or to a PC.

Spiropalm is a very compact portable spirometer (dims. 18x7.5x3 cm) and it comes with a bidirectional turbine flowmeter (that requires the use of anti-bacterial filters). Optionally, Spiropalm can be implemented with an integrated Nonin pulseoximeter for measuring SpO₂ and HR parameters.

The device has been designed in a simple operating mode through a navigation tool similar to cellular phones.

High connectivity !

Spiropalm offers 3 different interfacing options:

- ▶ the USB-B for direct printing with an external inkjet or laser printer (PCL compatible).
- ▶ the USB-A for PC connection
- ▶ port for connection with pulse oximeter for SpO₂ monitoring



Display:
Black and white LCD display (320x240 pixels) with real time monitoring of test performance, plus encouragement features for children and non-cooperative patients;



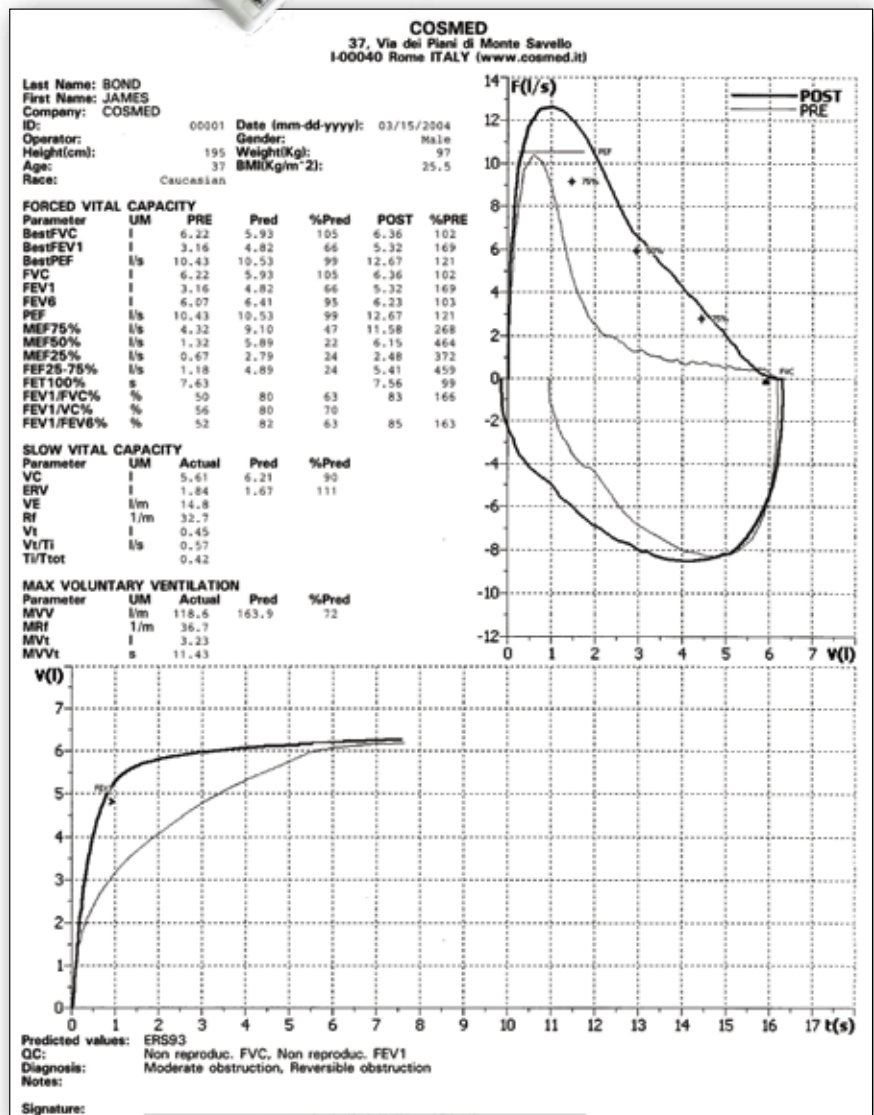
Applications

- ▶ Small Clinic, Family Practice
- ▶ General Practitioner, Primary care
- ▶ Mobile Solutions
- ▶ Occupational Health
- ▶ Preventive Medicine
- ▶ Sports Doctor

Accurate Measurements

COSMED flowmeters are extremely accurate and comply with the most stringent requirements for precision fixed by ATS and ERS.

- ▶ Full Spirometry (FVC, SVC, MVV, pre/post)
- ▶ Bronchial challenge test (Pre-Post)
- ▶ SpO₂ (option)
- ▶ Six-Minutes Walk Test (6MWT)
- ▶ Normal values: ERS, NHANES III, Crapo 1981, Knudson 1983, ITS, Multicentrico Barcelona, LAM, Gutierrez, Pneumobil, Zapletal, Thai 2000, Pereira, Austria (Forche)



Reports:

Spiropalm allows to print reports with PCL compatible printers directly via USB connection. Colour printouts can also be produced through the included PC software.

Automatic Diagnosis

The automatic interpretation of test results as per the latest interpretation criteria fixed by ATS and ERS, is automatically suggested by the software at the end of the test. User however can manually modify the diagnosis, customize the diagnosis database and add notes. Spiropalm is currently the unique spirometer that incorporates the diagnosis for COPD after a bronchial dilator test.

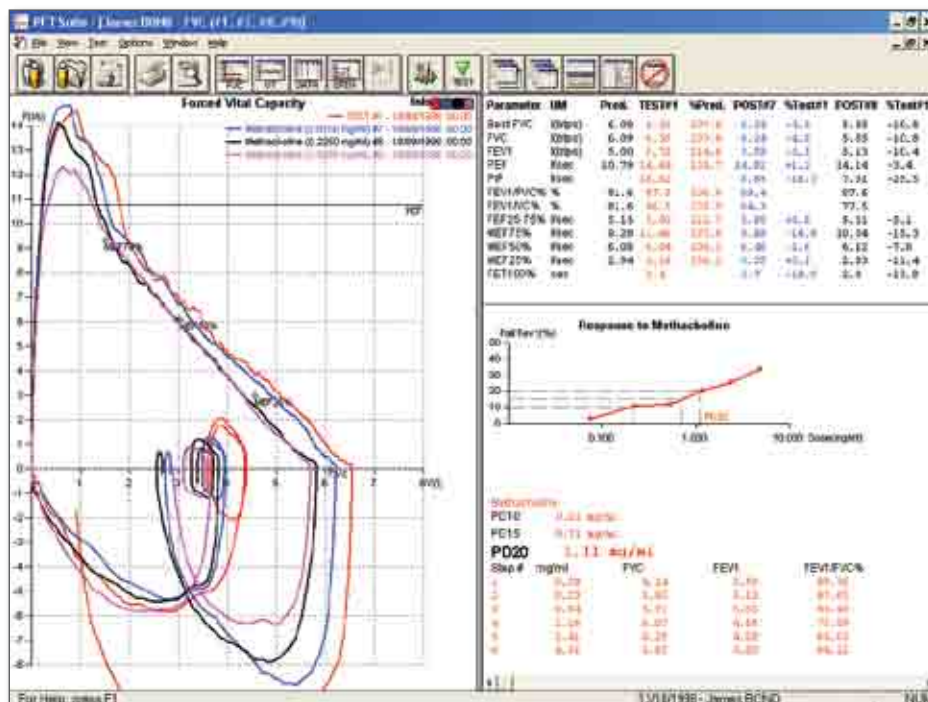
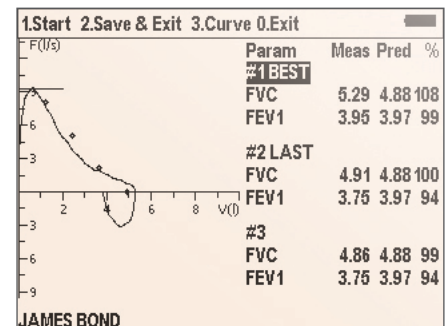
PC Software

Spiropalm is integrated with an extremely user-friendly PC program, which allows online testing via USB interface and data download for the management of results through simple, intuitive commands and icons.

- ▶ Complete database management for patients, diagnosis, clinical report, bronchial challenge protocols;
- ▶ Advanced features and user defined protocols to easily manage bronchial challenge tests;
- ▶ Powerful post-analysis elaboration of data with possibility to compare tests performed in different test sessions;



*Digital turbine flowmeter:
It does not require frequent calibration. Extremely accurate and reliable in any conditions. It can be used with antibacterial filters (recommended) or cardboard mouthpieces.*



Test
1 FVC
2 FVC post BD
3 FVC post BC
4 SVC
5 MVV
SPO2
6 SPO2

Real time graphic and numeric visualization of spirometry tests



Possibility to save PDF reports directly in a configured USB stick

Technical Specification

Products Features

Flowmeter	Digital Turbine
Type	Bi-directional
Flow Range	0.08-20l/s
Volume range	12 litres
Accuracy of reading	±2%
Resistance	<0.6 cm H ₂ O/l/s @ 14 l/s
Temperature sensor	0-50° C

Measured parameter

FVC • IVc • VC • MVV • VT • FEV1 • FEV6 • FEV1/FEV6 • FEV6/FVC • PEF • PIF • FEV1/FVC • FEF 25-75 • FEV1/VC% • %FEV1 • MEF25% • MEF50% • MEF75% • FET 100% • Lung Age • ERV • IRV • VE • Rf • ti • te • ti/t.tot • VT/ti • Best FVC • Best FEV1 • IC • SpO2 • HR

Predicted values

ERS 1993 (ECCS 1983), NHANES III, Knudson 83, ECCS 1971, ITS, Zapletal, LAM, Pneumobil, Gutierrez (Chile), Multicèntrico, Barcelona, Thai 2000, Austria (Forche), Crapo 1981 user defined predicted calculations.

Hardware

Dimension (mm/in)	185x86x31/7¼ x 3 ¼ x 1 ¼ in
Weight (gr/oz)	390 /13½
Display	LCD B/W 320 x 240 pixel (amber backlighted)

Standard Packaging Includes

PC software and user manual, Flowmeter, AC/DC adapter (110-240V), USB communication cable, Pediatric mouthpiece adapter, Mouthpieces and nose clips, Anti-Bacterial filters. CD-Rom.

Available languages

English, Italian, French, German, Spanish, Portuguese, Turkish, Chinese (Mandarin), Korean.

PC configuration required

Pentium or faster. Operating system: Windows XP, 2000, 98/95, NT, Vista (32 bit), Windows 7 (32 bit). 32 Mb RAM or more, Available USB port, CD-ROM Drive, 20 Mb on HD space available, Monitor VGA, SVGA, XGA, Any mouse and printer compatible with the MS Windows™ operative system

USB printer: only PCL (Printer Control Language) compatible

Electrical requirements

Internal batteries	Rechargeable Li-Ion 1800mAh
Battery Charger	Input 100-240Vac 200mA, Output 12Vdc 700mA

Safety & Quality Standards

Equipment complies with MDD (93/42 EEC);
EN 60601-1 (safety) / EN 60601-1-2 (EMC).

